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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/518,514

12/20/2004

Gunter Doemens

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8374

466

7590

10/31/2007

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EXAMINER

PARK, EDWARD

ART UNIT

PAPER NUMBER

2624

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/518,514	Applicant(s) DOEMENS ET AL.	
	Examiner Edward Park	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 16-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 16-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/20/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Drawings

1. The drawing is objected to because of figure 1 lacking sufficient labeling. Figure 1 contains reference numbers but do not contain any structural or descriptive labels that would allow the examiner to quickly comprehend the proposed invention without referring back to the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

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2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

3. **Claims 16, 23** objected to because of the following informalities: Regarding claim 16, the word, “spacial”, appears to be a typographical error. Regarding claim 23, the word, “characterised”, appears to be a typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 16, 17, 18, 20, 21, 22, 29, 30, 32, 33, 34** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanna et al (US 6,714,665 B1) in view of Mahbub (US 6,961,443 B2).

Regarding **claims 16, 18, 20**, Hanna discloses a method for recording individuals, whereby at least one subarea of the face and at least one subarea of a hand of the individual to be identified is recorded with the aid of an optical sensor and are evaluated in an evaluating unit (see figure 6, numerals 612, 614 which are sub-areas of the face and the hand of the individual which is recorded by a “imager”/optical sensor, see figure 3, numeral 10, col. 10, lines 8-31 and is evaluated by figure 3, numeral 316, “stereo module” that locates portions of the image which

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include features such as skin tones or inter-image motion, see col. 10, lines 8-31). Hanna does not disclose using a single optical sensor and using optical triangulation to determine three-dimensional spatial coordinates, triangulation, and a laser scanner.

Mahbub teaches using a single optical sensor (see figure 4, numeral 36 camera is a single optical sensor) and using optical triangulation to determine three-dimensional spatial coordinates (see col. 4, lines 18-55 “3-D coordinated are measured using triangulation of the light spots”), triangulation (see col. 4, lines 18-55 “3-D coordinated are measured using triangulation of the light spots”), and a laser scanner (see figure 7, numeral 44, 48, col. 4, lines 57-67, col. 5, lines 1-7, “laser range finder” which determines 3-D coordinates).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Hanna reference to utilize a single optical sensor with optical triangulation with a laser scanner as suggested by Mahbub, to decrease the cost and complexity of the overall system by decreasing the quantity of cameras needed to determine 3d coordinates by utilizing a single camera with a laser scanner.

Regarding **claim 17**, Hanna discloses an imaging process (see figure 3 the system as a whole is an imaging process).

Regarding **claim 21**, Hanna discloses recording by the optical sensor (see figure 3, numeral 10 camera/imager is an optical sensor) additionally in two dimensions (see figure 3, numeral 10 camera captures an image in two dimensions).

Regarding **claim 22**, Hanna discloses recording repeatedly by the optical sensor in order to record a movement (see col. 10, lines 8-30 imager/camera provides images to the host processor at a rate of three to five images per second).

Regarding **claim 29**, Hanna discloses recording by the optical sensor (see figure 3, numeral 10 camera/imager is an optical sensor) additionally in two dimensions (see figure 3, numeral 10 camera captures an image in two dimensions).

Regarding **claim 30**, Hanna discloses recording by the optical sensor (see figure 3, numeral 10 camera/imager is an optical sensor) additionally in two dimensions (see figure 3, numeral 10 camera captures an image in two dimensions).

Regarding **claim 32**, Hanna discloses recording by the optical sensor (see figure 3, numeral 10 camera/imager is an optical sensor) additionally in two dimensions (see figure 3, numeral 10 camera captures an image in two dimensions).

Regarding **claim 33**, Hanna discloses recording repeatedly by the optical sensor in order to record a movement (see col. 10, lines 8-30 imager/camera provides images to the host processor at a rate of three to five images per second).

Regarding **claim 34**, Hanna discloses recording repeatedly by the optical sensor in order to record a movement (see col. 10, lines 8-30 imager/camera provides images to the host processor at a rate of three to five images per second).

6. **Claims 19, 31, 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hanna et al (US 6,714,665 B1) with Mahbub (US 6,961,443 B2) as applied to claim 18 above, and further in view of Ban et al. (US 6,775,403 B1).

Regarding **claim 19**, Hanna with Mahbub combination discloses all elements as mentioned above in claim 18. Hanna with Mahbub combination does not disclose utilizing a light-slit method.

Ban teaches utilizing a light-slit method (Ban: col. 4, lines 31-39).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Hanna with Mahbub combination to utilize a light-slit method as suggested by Ban, to “[convert] shape information into 3-D range image data (so-called 3-D image data)” in a non-contact measuring method, which is considered well known in the art.

Regarding **claim 31**, Hanna discloses recording by the optical sensor (see figure 3, numeral 10 camera/imager is an optical sensor) additionally in two dimensions (see figure 3, numeral 10 camera captures an image in two dimensions).

Regarding **claim 35**, Hanna discloses recording repeatedly by the optical sensor in order to record a movement (see col. 10, lines 8-30 imager/camera provides images to the host processor at a rate of three to five images per second).

7. **Claims 23, 24, 27, 28** are rejected under 35 U.S.C. 103(a) as being unpatentable over Hanna et al (US 6,714,665 B1) in view of Hongo et al (IEEE: Face and hand gesture recognition for human-computer interaction).

Regarding **claim 23**, Hanna discloses a device for identifying a person by means of an optical sensor, which works together with an evaluating unit, characterized in that the optical sensor and the evaluating unit are able to record and identify the face of the individual to be identified (see figure 6, numerals 612, 614 which are sub-areas of the face and the hand of the individual which is recorded by a “imager”/optical sensor, see figure 3, numeral 10, col. 10, lines 8-31 and is evaluated by figure 3, numeral 316, “stereo module” that locates portions of the image which include features such as skin tones or inter-image motion, see col. 10, lines 8-31). Hanna does not disclose identifying the hand of the individual to be identified.

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Hongo teaches identifying the hand of the individual to be identified (see pg. 922 left column, first paragraph; see pg. 923 section 3 for a camera and method that detects and tracks the hands of the individual).

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Hanna reference to identify the hand as suggested by Hongo, in order for increased biometric security and reliability by utilizing more than one biometric feature by locating both the hand and face for “[pre]-process[ing] for recognition” (see pg. 922 left column, first paragraph).

Regarding **claim 24**, Hanna discloses recording both the at least one subarea of the face or the at least one subarea of the hand in an imaging process (see figure 3, numeral 10 which records the subareas of the face and hand of figure 6, numerals 612, 614).

Regarding **claim 27**, Hanna discloses implementing an imaging method (see figure 3 the system as a whole is an imaging method).

Regarding **claim 28**, Hanna discloses partially or completely recording a movement by repeatedly recording the face or the hand (see col. 10, lines 8-30 imager/camera provides images of figure 6 to the host processor at a rate of three to five images per second).

8. **Claims 25 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Hanna et al (US 6,714,665 B1) with Hongo et al (IEEE: Face and hand gesture recognition for human-computer interaction) as applied to claim 23 above, and further in view of Mahbub (US 6,961,443 B2).

Regarding **claims 25 and 26**, Hanna with Hongo combination discloses all elements as mentioned above in claim 23. Hanna with Hongo combination does not disclose recording the face or the hand partially or completely in three dimensions and triangulation.

Mahbub teaches using a single optical sensor (see figure 4, numeral 36 camera is a single optical sensor) and using optical triangulation to determine three-dimensional spatial coordinates (see col. 4, lines 18-55 "3-D coordinated are measured using triangulation of the light spots"), triangulation (see col. 4, lines 18-55 "3-D coordinated are measured using triangulation of the light spots"), and a laser scanner (see figure 7, numeral 44, 48, col. 4, lines 57-67, col. 5, lines 1-7, "laser range finder" which determines 3-D coordinates).

Mahbub teaches recording partially or completely in three dimensions and triangulation (see col. 4, lines 18-55 "3-D coordinated are measured using triangulation of the light spots").

It would have been obvious at the time the invention was made to one of ordinary skill in the art to modify the Hanna with Hongo combination to utilize three dimensions and triangulation as suggested by Mahbub, to pre-process an image for multiple biometric feature recognition and to decrease the cost and complexity of the overall system by decreasing the quantity of cameras needed to determine 3d coordinates by utilizing a single camera with triangulation.

Conclusion


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward Park whose telephone number is (571) 270-1576. The examiner can normally be reached on M-F 10:30 - 20:00, (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vikkram Bali can be reached on (571) 272-7415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Edward Park
Examiner
Art Unit 2624

/Edward Park/


VIKKRAM BALI
PRIMARY EXAMINER